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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,206	10/09/2003	Patricia Rao	TLN-021CP	5073

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EXAMINER	
JUEDES, AMY E	
ART UNIT	**PAPER NUMBER**
1644	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.	**Applicant(s)**
10/684,206	RAO ET AL.
Examiner	**Art Unit**
AMY E. JUEDES	1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-10,12-20 and 29-36* is/are pending in the application.

4a) Of the above claim(s) *3-5,9,10,13-15,19,20 and 33-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,6-8,12,16-18 and 29-31* is/are rejected.

7)☒ Claim(s) *32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant’s species election without traverse of a method comprising measuring FoxP3, in the reply filed on 9/12/08 is acknowledged.

Claims 3-5, 9-10, 13-15, 19-20, and 33-36 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claims 2, 6-8, 12, 16-18, and 29-32 are being acted upon.

2. Upon reconsideration and in view of Applicant's amendment to the claims, the rejection of the claims under 35 U.S.C. 112 second paragraph is withdrawn.

3. Claim 32 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 32 not been further treated on the merits.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2, 6-8, 12, and 16-18 stand rejected, and claims 29-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, there is insufficient written description to demonstrate that applicant was in possession of the claimed genus of “agents” that modulate the expression/activity of PSG-1 polypeptide.

As set forth previously, The specification on page 13 discloses that “agents” include compounds that upmodulate the expression and/or activity of a molecule of the invention (i.e. PSG-1), and include active protein molecules, peptides, and peptidomimetics of the polypeptides of the invention, as well as other compounds identified by the screening assays of the invention. Thus, the claims encompass employing a wide range of structurally different “agents” in the claimed method. For example, the claims might encompass employing agents that are polypeptides, small organic molecules, or short peptide fragments. Additionally, the claims encompass functionally different agents that function to upmodulate the expression or activity of PSG-1. For example, the agent might act by directly promoting an interaction between PSG-1 and its cellular receptor (i.e. upmodulating PSG-1 activity), or the agent might act on a structurally and functionally different upstream signaling molecule that induce PSG-1 expression. Thus, the claims encompass a wide range of structurally and functionally different “agents”. The instant specification has only specifically disclosed a single species of agent, PSG-1 polypeptide. While the specification broadly discloses other classes of agents, such as peptidomimetics or organic compounds identified by a particular screening assay, no specific examples have been disclosed. The disclosure of PSG-1 polypeptide as the only specific species of agent is not sufficiently representative of the broad range of structurally and functionally different agents encompassed by the claims. Thus, one of skill in the art would conclude that the specification fails to provide adequate written description to demonstrate that Applicant was in possession of the claimed genus. See Eli Lilly, 119 F. 3d 1559, 43, USPQ2d 1398.

Applicant's arguments filed 12/4/07 have been fully considered, but they are not persuasive.

Applicant argues that the specification discloses several agents that modulate the expression or activity of PSG, including antibodies, RNAi, antisense, dominant negative mutants, and peptidomimetics.

The specification merely discloses several subgenuses of agents without disclosing a single specific species. For example, the specification discloses RNAi agents, but does not disclose the sequence of any species of inhibitory RNA molecules.

Applicant further notes that the specification teaches the nucleic acid and amino acid sequence of PSG1, PSG-3, PSG-6, and PSG-9, and that one of skill in the art could make and use the nucleotide and amino acid sequences provided as stimulatory or inhibitory agents. Applicant further argues that the specification teaches additional screening methods to select the modulatory agents of the claims.

Applicant is essentially arguing that the ordinary artisan would be able to make inhibitors (such as RNAi) based on the sequences of the PSG molecules disclosed by the specification, or to make other inhibitory agents using the disclosed screening methods. However, whether one of skill in the art could make an inhibitor may be relevant to enablement of the claimed invention, the instant claims are rejected for lack of written description. The guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, § 1 "Written Description" Requirement make clear that if a claimed genus does not show actual reduction to practice for a representative number of species, then the requirement may be alternatively met by reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the genus (Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001, see especially page 1106 column 3). As noted above, the specification only discloses a single species of agent, i.e. PSG polypeptide. This is not representative of the broad genus of "agents" encompassed by the claims. The specification does not describe any correlation between the structure of the "agents" and their function of modulating the activity of PSG. While the specification describes a method of screening for the agents of the claims, there is no information regarding what structural features would likely be associated with the function of modulating the activity of PSG.

Applicant further argues that the specification need not disclose what is well known in the art. Applicant cites Aquino et al. as evidence that agents that stimulate or inhibit the activity of PSG are well known in the art.

Aquino et al. describe agents that increase the expression of CEA. Aquino et al. further teach that CEA is a protein belonging to the CEA gene family which includes 29 other genes including PSG. Aquino et al. does not describe a single inhibitor or stimulator of PSG. PSG is structurally and functionally unrelated to CEA, and there is no evidence that any of the molecules described by Aquino et al. function to modulate PSG.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 6-8, 12, and 16-18 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,150,326, as evidenced by the MeSH entry for pregnancy-specific beta 1-glycoprotein.

As set forth previously, The '326 patent teaches a method of treating autoimmune disease comprising administering trophoblastic □-1-glycoprotein (TBG). As evidenced by the MESH entry, trophoblastic □-1-glycoprotein is another term for pregnancy specific beta 1 glycoprotein (i.e. PSG-1). The instant specification on page 13 discloses that agents that increase the expression and/or activity of the molecules of the invention include active protein molecules of the invention. Since the specification further discloses on page 15 that PSG-1 is a molecule of the invention, PSG-1/TBG is an agent that increases the expression/activity of PSG-1 polypeptide. Furthermore, administration of PSG-1/TBG would result in the contact of effector T cell and regulatory T cells in vivo. The '326 patent further teaches that the treatment results in correction of the T-suppressor deficit which is present in autoimmune disease by inducing the suppressive activity of T-suppressors. Correction of a T suppressor deficit resulting in increased T-suppressor activity would inherently result in the inhibition of effector function relative to regulatory (i.e. suppressor) T cell function.

Applicant’s arguments filed 12/4/07 have been fully considered, but they are not persuasive.

Applicant argues that increasing suppressor T cell numbers, as disclosed by the ‘326 patent is not the same as modulating the balance of effector T cell function relative to CD4+CD25+ regulatory T cell function, as recited in the instant claims. Applicant particularly notes that as evidenced by von herrath et al., Chatenoud et al., and Bushell et al., modulation of regulatory T cell function does not necessarily result in modulation of effector T cell function.

The '326 patent teaches that administration of PSG-1 enhances suppressor (i.e. regulatory) T cell activity, and suppresses T cell mediated autoimmune diseases (i.e. inhibits autoimmune effector T cell function). Thus, the '326 patent does teach that the method modulates the balance of effector T cell function relative to regulatory T cell function. Furthermore, the '326 patent discloses the exact method of the instant claims (i.e. administering an agent that modulates the activity of PSG-1, or contacting cells with said agent). Therefore, the method of the '326 patent must inherently result in the modulation of effector T cell function relative to CD4+CD25+ regulatory T cell function, since it is the same as the method of the instant claims.

6. The following are new grounds of rejection necessitated by Applicant’s amendment to the claims.

7. Claims 29-31 are rejected under 35 U.S.C. 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed. This is a new matter rejection.

The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically:

A method comprising contacting/administering an agent that modulates PSG, further comprising determining the expression of “FoxP3”, “Tbox21”, and “GATA3”.

Applicant indicates that support for the new claims can be found in Examples 2-4, 6, and 9 of the specification.

The instant specification discloses in examples 2-4, 6, and 9 measuring FoxP3, Tbox21, and GATA3 expression in CD3/CD28 stimulated peripheral blood lymphocytes after culture with TGFbeta, a PDE4 inhibitor, a histamine receptor antagonist, and a prostaglandin receptor antagonist. The specification does not disclose any correlation between treatment with PSG agents and the expression of FoxP3, Tbox21, or GATA3. Additionally, none of the examples disclose measuring FoxP3, Tbox21, or GATA3 expression in response to an agent that modulates PSG, as recited in the instant claims. Furthermore, the instant claims are not limited to measuring FoxP3, Tbox21, or GATA3 after CD3/CD28 stimulation, as disclosed in the specification. Moreover, none of the examples disclose measuring FoxP3, Tbox21, or GATA3 after administration of an agent to a subject for the treatment of disease, as recited in the instant claims.

8. No claim is allowed.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy E. Juedes, Ph.D. whose telephone number is 571-272-4471. The examiner can normally be reached on 8am - 5pm, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Christina Chan can be reached on 571-272-0841. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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